



Radiated Composite Gain Data Radio 1 (4TX)

Appendix A.1

| Freq(Hz) | 5.30GHz | PhiAnt 4 | ↓ | | ↓ | | ↓ | | ↓ | | ↓ | | ↓ | | ↓ | | ↓ | | ↓ | | ↓ | | ↓ | | ↓ | | ↓ | | ↓ | | ↓ | | ↓ | | ↓ | | ↓ | | ↓ | | ↓ | | ↓ | | ↓ | | ↓ | |
|----------|--------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|---|--|
| Gain | Φ(0°)Φ(7.5°) | Φ(15°)Φ(22.5°) | Φ(30°)Φ(37.5°) | Φ(45°)Φ(52.5°) | Φ(60°)Φ(67.5°) | Φ(75°)Φ(82.5°) | Φ(90°)Φ(97.5°) | Φ(105°)Φ(112.5°) | Φ(120°)Φ(127.5°) | Φ(135°)Φ(142.5°) | Φ(150°)Φ(157.5°) | Φ(165°)Φ(172.5°) | Φ(180°)Φ(187.5°) | Φ(195°)Φ(202.5°) | Φ(210°)Φ(217.5°) | Φ(225°)Φ(232.5°) | Φ(240°)Φ(247.5°) | Φ(255°)Φ(262.5°) | Φ(270°)Φ(277.5°) | Φ(285°)Φ(292.5°) | Φ(300°)Φ(307.5°) | Φ(315°)Φ(322.5°) | Φ(330°)Φ(337.5°) | Φ(345°)Φ(352.5°) | | | | | | | | | | | | | | | | | | | | | | | | |
| Θ(165°) | -18.66/18.96 | -18.66/18.23 | -18.59/17.93 | -18.12/17.59 | -17.92/18.12 | -18.88/18.46 | -17.98/18.68 | -18.25/17.99 | -17.52/18.05 | -18.69/18.23 | -16.42/18 | -18.66/17.94 | -18.64/17.9 | -18.18/17.76 | -18.63/17.57 | -17.92/16.51 | -14.25/13.58 | -15.95/19.43 | -17.57/16.79 | -15.49/14 | -13.74/15.88 | -17.76/18.01 | -18.93/18.61 | -17.37/17.47 | | | | | | | | | | | | | | | | | | | | | | | | |



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Appendix A.1

Table with columns for elevation angles (Theta) and azimuth angles (Phi). The table contains numerical gain data for various combinations of these angles, organized in a grid format.



| | |
|---|----------------|
| Freq(Hz) | 2.45G |
| Ant. 2 Max Gain (dBi) | 3.28 |
| Ant. 3 Max Gain (dBi) | 3.95 |
| Ant. 2 Polarization/ θ (°)/ Φ (°) | Theta/52.5/7.5 |
| Ant. 3 Polarization/ θ (°)/ Φ (°) | Theta/60/0 |
| Max Gain (dBi) | 3.95 |
| DG [1SS] (dBi) | 6.28 |
| DG [2SS] (dBi) | 3.95 |



Radiated Composite Gain Data Radio 1 (2TX)

Appendix A.2

DG 1SS Result

Table with columns for Frequency (MHz), Power (dBm), and various gain measurements (Phi values) for different antenna configurations and frequencies.



| Freq(Hz) | 5.2G | 5.3G | 5.6G | 5.785G |
|---|---------------|----------------|------------------|----------------|
| Ant. 1 Max Gain (dBi) | 1.39 | 1.71 | 3.09 | 3.45 |
| Ant. 4 Max Gain (dBi) | 1.47 | 1.36 | 2.39 | 2.26 |
| Ant. 1 Polarization/ θ (°)/ Φ (°) | Theta/52.5/60 | Theta/67.5/45 | Theta/60/45 | Theta/60/45 |
| Ant. 4 Polarization/ θ (°)/ Φ (°) | Theta/82.5/45 | Theta/82.5/255 | Theta/82.5/247.5 | Theta/52.5/345 |
| Max Gain (dBi) | 1.47 | 1.71 | 3.09 | 3.45 |
| DG [1SS] (dBi) | 2.85 | 2.93 | 5.09 | 5.42 |
| DG [2SS] (dBi) | 1.47 | 1.71 | 3.09 | 3.45 |



Radiated Composite Gain Data Radio 1 (2TX)

Appendix A.3

Gain Result

| Freq(Hz) | 5.2GHzPol | PhiAnt. 1 | PhiAnt. 2 | PhiAnt. 3 | PhiAnt. 4 | PhiAnt. 5 | PhiAnt. 6 | PhiAnt. 7 | PhiAnt. 8 | PhiAnt. 9 | PhiAnt. 10 | PhiAnt. 11 | PhiAnt. 12 | PhiAnt. 13 | PhiAnt. 14 | PhiAnt. 15 | PhiAnt. 16 | PhiAnt. 17 | PhiAnt. 18 | PhiAnt. 19 | PhiAnt. 20 | PhiAnt. 21 | PhiAnt. 22 | PhiAnt. 23 | PhiAnt. 24 | PhiAnt. 25 | PhiAnt. 26 | PhiAnt. 27 | PhiAnt. 28 | PhiAnt. 29 | PhiAnt. 30 | PhiAnt. 31 | PhiAnt. 32 | PhiAnt. 33 | PhiAnt. 34 | PhiAnt. 35 |
|---------------|------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Gain | Phi(0°)Phi(7.5°) | Phi(15°)Phi(22.5°) | Phi(30°)Phi(37.5°) | Phi(45°)Phi(52.5°) | Phi(60°)Phi(67.5°) | Phi(75°)Phi(82.5°) | Phi(90°)Phi(97.5°) | Phi(105°)Phi(112.5°) | Phi(120°)Phi(127.5°) | Phi(135°)Phi(142.5°) | Phi(150°)Phi(157.5°) | Phi(165°)Phi(172.5°) | Phi(180°)Phi(187.5°) | Phi(195°)Phi(202.5°) | Phi(210°)Phi(217.5°) | Phi(225°)Phi(232.5°) | Phi(240°)Phi(247.5°) | Phi(255°)Phi(262.5°) | Phi(270°)Phi(277.5°) | Phi(285°)Phi(292.5°) | Phi(300°)Phi(307.5°) | Phi(315°)Phi(322.5°) | Phi(330°)Phi(337.5°) | Phi(345°)Phi(352.5°) | | | | | | | | | | | | |
| Theta(0°) | -6.82/6.36 | -5.65/5.84 | -6.58/6.98 | -7.23/7.8 | -8.14/10.04 | -11.52/13.32 | -16.32/17.57 | -17.64/17.96 | -18.2/18.83 | -14.42/13.87 | -10.79/10 | -9.75/9.55 | -8.12/6.91 | -6.86/6.96 | -7.14/7.55 | -8.49/9.69 | -10.66/12.06 | -12.28/12.53 | -14.42/18.26 | -18.38/18.25 | -18.83/17.97 | -16.42/13.77 | -11.01/9.77 | -9.05/8.39 | | | | | | | | | | | | |
| Theta(7.5°) | -6.43/6.19 | -6.67/6.82 | -7.27/6.61 | -7.96/8.57 | -9.36/10.29 | -11.07/11.87 | -12.97/14.97 | -19.22/18.79 | -19.14/18.59 | -17.82/13.93 | -14.32/12.88 | -10.22/8.85 | -7.92/6.95 | -6.74/6.91 | -7.33/7.64 | -8.71/9.99 | -11.75/13.36 | -15.44/16.37 | -18.31/18.8 | -18.88/18.17 | -17.86/15.52 | -13.34/11.09 | -9.62/9.78 | -9.4/8.74 | | | | | | | | | | | | |
| Theta(15°) | -6.74/6.82 | -6.97/6.28 | -5.87/5.87 | -6.11/6.86 | -7.62/9.37 | -11.83/14.31 | -18.96/18.15 | -19.31/19.26 | -14.31/12 | -11.61/11.33 | -11.05/10.7 | -10.69/9.67 | -8.78/8.88 | -10.23/12.17 | -14.69/14.53 | -14.48/13.54 | -13.78/13.78 | -13.25/13.18 | -14.98/19.31 | -18.01/18.38 | -17.98/17.88 | -15.21/13.84 | -12.34/10.83 | -9.55/8.81 | | | | | | | | | | | | |
| Theta(22.5°) | -7.46/7.18 | -6.88/6.82 | -5.95/6.42 | -7.46/8.69 | -8.93/9.3 | -11.83/14.11 | -18.71/16.65 | -15.51/18.46 | -18.32/12.94 | -10.59/11.23 | -11.35/10.18 | -9.77/9.55 | -8.94/9.5 | -11.29/12.27 | -12.06/11.72 | -12.34/15.56 | -18.51/17.58 | -15.4/15.86 | -19.04/18.88 | -18.54/17.96 | -18.59/18.91 | -19.21/17.79 | -15.91/13.91 | -11.18/9.42 | | | | | | | | | | | | |
| Theta(30°) | -9.05/7.01 | -5.31/5.69 | -6.31/7.33 | -9.28/13.12 | -13.67/10.61 | -10.62/12.94 | -15.88/12.8 | -12.37/15.27 | -18.31/19.23 | -17.92/12.3 | -8.58/7.64 | -9.03/11.01 | -12.29/12.64 | -12.52/13.02 | -13.78/12.16 | -11.27/14.83 | -17.6/18.69 | -17.73/14.13 | -12.48/14.71 | -15.57/12.55 | -13.56/16.74 | -18.24/17.85 | -18.63/14.19 | -10.93/9.14 | | | | | | | | | | | | |
| Theta(37.5°) | -11/4/8.3 | -5.93/6.2 | -8.52/9.3 | -8.47/10.05 | -11.85/11.78 | -8.97/8.73 | -11.31/9.59 | -12.54/17.99 | -17.59/18.13 | -17.64/9.4 | -8.52/10.2 | -7.76/6.6 | -9.47/14.57 | -10.32/10.15 | -13.14/17.27 | -16.45/13.77 | -12.27/17.85 | -18.09/12.55 | -12.56/18.68 | -10.64/7.94 | -9.71/12.34 | -16.02/19.04 | -18.41/18 | -17.48/14.37 | | | | | | | | | | | | |
| Theta(45°) | -16.6/10.12 | -9.54/8.41 | -7.78/13.04 | -16.11/16.73 | -13.7/12.34 | -11.22/8.85 | -9.41/7.57 | -9.83/12.23 | -11.91/18.73 | -16.83/13.93 | -10.14/9.96 | -12.63/8.82 | -8.88/13.7 | -12.26/13.78 | -16.9/19.5 | -13.12/17.79 | -15.75/15.35 | -19.17/16.5 | -10.48/13.86 | -12.16/7.97 | -8.91/13.58 | -14.92/15.62 | -18.59/18.35 | | | | | | | | | | | | | |
| Theta(52.5°) | -18.86/12.2 | -9.36/10.82 | -7.65/17.79 | -18.76/13.82 | -16.44/18.43 | -16.63/17.9 | -11.11/11.84 | -10.42/10.97 | -18.41/12.54 | -14.63/18.58 | -11.62/9.77 | -8.64/11.22 | -13.78/12.01 | -14.82/15.61 | -19.07/15.31 | -14.68/17.79 | -15.46/16.46 | -17.04/17.88 | -16.87/12.65 | -10.26/10.03 | -6.65/5.88 | -7.64/11.2 | -14.69/18.49 | -17.6/18.05 | | | | | | | | | | | | |
| Theta(60°) | -18.96/12.54 | -8.31/11.09 | -13.02/19.03 | -11.8/13.46 | -18.31/17.02 | -12.72/17.75 | -15.24/18.57 | -16.29/17.76 | -15.13/8.6 | -19.18/9.66 | -8.66/11.29 | -11.6/9.26 | -14.05/9.97 | -14.94/11.07 | -18.3/18.83 | -18.49/16.81 | -13.82/17.7 | -13.51/11.43 | -7.52/7.02 | -6.47/7.82 | -7.6/8.01 | -13.79/17.87 | -18.51/17.77 | | | | | | | | | | | | | |
| Theta(67.5°) | -19/12/18.35 | -11.99/12.96 | -17.52/12.52 | -9.81/18.21 | -17.69/18.74 | -12.59/12.81 | -13.31/14.81 | -18.77/19.92 | -10.34/13.68 | -18.54/9.71 | -8.98/8.8 | -9.66/9.55 | -11.16/10.6 | -14.09/10.21 | -19.19/16.56 | -18.83/16.34 | -11.91/18.41 | -15.03/19.1 | -13.66/12.95 | -7.57/7.16 | -7.42/9.16 | -6.67/8.07 | -14.77/18.35 | -18.17/19.44 | | | | | | | | | | | | |
| Theta(75°) | -17.97/16.04 | -15.41/14.29 | -15.67/11.62 | -10/15.09 | -14.15/18.64 | -13.35/17.89 | -14.7/13.76 | -19.14/18.18 | -8.57/12.72 | -17.55/16.17 | -17.75/9.15 | -7.66/11.37 | -11.96/13.02 | -15.11/13.06 | -18.16/16.84 | -18.85/18.41 | -12.1/18.42 | -17.97/17.42 | -17.22/14.38 | -7.96/8.22 | -7.95/9.89 | -7.1/8.07 | -12.78/17.16 | -17.17/15.14 | | | | | | | | | | | | |
| Theta(82.5°) | -13.55/18.79 | -17.72/14.28 | -13.01/19.49 | -13.96/12.85 | -12.07/17.66 | -17.73/19.43 | -12.52/15.85 | -17.38/16.68 | -11.85/18.76 | -16.63/11.56 | -6.81/14.45 | -11.91/10.27 | -13.95/12.72 | -18.83/18.66 | -19.04/18.14 | -11.42/17.77 | -19.04/17.81 | -16.51/14.52 | -8.18/9.29 | -9.18/9.99 | -8.15/10.08 | -14.86/15.91 | -16.01/15.82 | | | | | | | | | | | | | |
| Theta(90°) | -15.37/18.52 | -18.77/15.41 | -13.76/10.55 | -13.98/10.67 | -13.72/18.67 | -17.07/19.16 | -18.22/15.86 | -14.33/15.9 | -15.53/17.99 | -16.82/15.52 | -11.63/11.52 | -7.53/18.68 | -10.44/9.91 | -12.55/10.42 | -13.74/17.97 | -18.86/17.93 | -15.1/18.76 | -18.66/19.26 | -17.84/17.27 | -11.10/43 | -9.55/12.36 | -10.5/12.33 | -16.86/15.95 | -12.92/13.92 | | | | | | | | | | | | |
| Theta(97.5°) | -12.81/17.18 | -18.49/19.3 | -13.3/14.57 | -14.96/9.2 | -10.75/16.63 | -17.58/17.76 | -14.78/18.67 | -18.42/14.2 | -18.86/15.14 | -16.71/13.74 | -10.37/11.51 | -9.58/16.05 | -9.72/8.43 | -12.51/11.13 | -12.44/19.09 | -18.89/15.53 | -18.56/17.61 | -19/17.18 | -17.51/14.64 | -10.43/11.28 | -10.24/14.38 | -11.51/13.35 | -17.23/15.07 | -13.16/12.52 | | | | | | | | | | | | |
| Theta(105°) | -12.41/18.57 | -19.36/14.43 | -14.86/12.76 | -18.27/11.36 | -9.93/13.51 | -14.89/17.74 | -16.31/17.91 | -14.83/17.95 | -17.88/12.39 | -18.98/13.86 | -9.67/13.5 | -12.02/10.76 | -9.03/8.62 | -11.72/10.86 | -12.85/16 | -17.57/17.46 | -18.3/18.5 | -18.55/18.57 | -18.84/16.41 | -14.81/13 | -10.91/14.32 | -11.29/13.67 | -17.26/17.77 | -12.85/12.28 | | | | | | | | | | | | |
| Theta(112.5°) | -14.91/17.05 | -17.38/18.84 | -18.07/12.91 | -18.69/14.46 | -10.91/12.19 | -11.46/19.49 | -18.62/16.56 | -18.29/17.75 | -16.22/16.73 | -16.98/19.92 | -13.6/18.36 | -15.11/16.94 | -12.92/11.05 | -14.44/13.26 | -14.24/18.21 | -17.86/18.51 | -18.73/18.18 | -18.61/18.07 | -19.71/14.98 | -12.54/16.64 | -10.97/17.04 | -12.23/13.19 | -18.14/15.23 | -10.68/12.06 | | | | | | | | | | | | |
| Theta(120°) | -13.92/15.72 | -18.89/18.13 | -18.64/16.23 | -18.14/12.4 | -13.57/13.37 | -13.37/14.28 | -15.75/17.79 | -12.76/18.96 | -15.75/17.66 | -14.9/14.76 | -12.07/18.49 | -18.55/19.27 | -15.8/12.62 | -15.19/15.35 | -19.02/18.09 | -18.79/17.83 | -17.5/18.89 | -18.15/17.65 | -18.47/14.04 | -13.77/16.37 | -15.18/18.25 | -18.22/16.69 | -17.53/18.03 | -14.38/9.52 | | | | | | | | | | | | |
| Theta(127.5°) | -11.87/15.76 | -17.99/18.77 | -19.09/13.78 | -18.61/18.54 | -16.73/13.29 | -16.19/15.16 | -16.58/17.31 | -12.49/18.78 | -16.05/18.71 | -17.71/14.02 | -9.76/18.15 | -18.09/17.64 | -18.34/18.12 | -18.24/15.27 | -18.34/19.13 | -18.85/18.93 | -18.35/18.77 | -17.83/17.33 | -18.65/14.9 | -17.92/18.11 | -18.68/13.71 | -14.9/17.9 | -18.23/18.15 | -16.44/12.61 | | | | | | | | | | | | |
| Theta(135°) | -13.9/13.1 | -18.44/18.13 | -17.3/18.11 | -18.21/19.21 | -15.48/19.23 | -14.79/14.78 | -12.73/16.78 | -13.25/14.98 | -19.4/11.11 | -15.9/18.16 | -18.67/19.21 | -18.77/16.55 | -16.37/18.9 | -17.18/18.4 | -12.43/18.45 | -17.18/18.47 | -17.9/18.48 | -17.94/18.04 | -18.77/16.45 | -18.06/15.67 | -18.78/14.28 | -14.33/15.34 | -18.06/18.37 | -18.63/15.49 | | | | | | | | | | | | |
| Theta(142.5°) | -11.95/12.09 | -16.54/16.95 | -18.28/18.43 | -17.74/15.88 | -13.06/14.74 | -11.56/17.36 | -12.08/11.76 | -13.97/14.91 | -18.48/16.15 | -16.91/19.35 | -11.59/18.88 | -17.71/16.21 | -18.56/19.08 | -19.18.31 | -18.56/19.04 | -19.18.31 | -17.88/18.89 | -18.76/13.98 | -17.62/18.94 | -17.95/18.53 | -16.18/17.77 | -18.5/18.76 | -14.95/14.45 | | | | | | | | | | | | | |
| Theta(150°) | -16.72/14.18 | -14.94/18.15 | -17.22/14.58 | -17.36/19.15 | -18.29/19.13 | -15.64/13.76 | -9.76/10.49 | -18.86/17.68 | -17.85/18.16 | -18.27/17.17 | -19.06/18.42 | -18.06/18.58 | -18.16/18.85 | -18.94/17.52 | -17.64/17.61 | -18.98/15.74 | -17.15/18.56 | -17.47/13.71 | -18.4/17.4 | -16.07/18.27 | -17.83/17.77 | -18.21/19.06 | -18.32/16.26 | -14.51/17.54 | | | | | | | | | | | | |
| Theta(157.5°) | -17.77/18.59 | -18.58/16.61 | -16.98/18.31 | -17.56/19.47 | -18.12/18.2 | -17.95/18.24 | -17.43/18.95 | -17.12/17.68 | -18.08/18.98 | -18.16/19.1 | -18.18/19.2 | -18.49/17.4 | -18.49/17.34 | -16.49/18.51 | -18.29/17.44 | -17.31/18.86 | -18.26/16.61 | -15.15/18.63 | -19.75/14.16 | -14.05/17.39 | -17.25/17.76 | -18.99/18.74 | -19.41/15.92 | -13.45/15.11 | | | | | | | | | | | | |
| Theta(165°) | -19.46/19.29 | -16.66/15.12 | -13.98/13.07 | -12.27/10.82 | -10.39/12.39 | -15.61/18.83 | -18.72/17.47 | -17.29/19.09 | -18.29/19.15 | -18.6/17.96 | -14.47/19.2 | -19.22/19.38 | -19.09/17.48 | -18.99/17.88 | -18.99/17.89 | -17.46/18.06 | -18.19/18.97 | -19.01/18.79 | -17.44/13.28 | -12.68/14.36 | -16.47/19.09 | -18.77/17 | -18.28/18.34 | -17.51/17.13 | | | | | | | | | | | | |
| Theta(172.5°) | -18.69/17.66 | -17.3/18.57 | -19.27/16.44 | -14.76/15.09 | -15.26/16.25 | -16.77/16.94 | -17.55/18.06 | -17.47/18.4 | -18.7/17.86 | -19.15/18.21 | -17.84/17.53 | -18.85/17.9 | -17.9/18.65 | -18.31/18.04 | -19.36/18.19 | -17.9/18.72 | -18.66/18.82 | -18.3/18.92 | -17.96/18 | -18.1/18.69 | -17.65/17.83 | -18.47/19.01 | -19.4/19.41 | -15.81/17.56 | | | | | | | | | | | | |
| Theta(180°) | -18.68/18.41 | -18.27/18.86 | -18.27/18.53 | -19.21/18.84 | -17.66/17.85 | -18.98/17.78 | -18.2/18.19 | -18.32/17.49 | -18.09/18.43 | -18.72/18.27 | -18.88/18.75 | -19.02/19.05 | -17.19/18.33 | -18.84/17.47 | -18.68/18.01 | -17.79/18.16 | -18.64/18.08 | -19.08/17.53 | -18.05/17.96 | -18.21/17.78 | -17.72/18.6 | -18.05/18.31 | -17.95/17.58 | | | | | | | | | | | | | |
| PhiAnt. 1 | PhiAnt. 2 | PhiAnt. 3 | PhiAnt. 4 | PhiAnt. 5 | PhiAnt. 6 | PhiAnt. 7 | PhiAnt. 8 | PhiAnt. 9 | PhiAnt. 10 | PhiAnt. 11 | PhiAnt. 12 | PhiAnt. 13 | PhiAnt. 14 | PhiAnt. 15 | PhiAnt. 16 | PhiAnt. 17 | PhiAnt. 18 | PhiAnt. 19 | PhiAnt. 20 | PhiAnt. 21 | PhiAnt. 22 | PhiAnt. 23 | PhiAnt. 24 | PhiAnt. 25 | PhiAnt. 26 | PhiAnt. 27 | PhiAnt. 28 | PhiAnt. 29 | PhiAnt. 30 | PhiAnt. 31 | PhiAnt. 32 | PhiAnt. 33 | PhiAnt. 34 | PhiAnt. 35 | | |
| Gain | Phi(0°)Phi(7.5°) | Phi(15°)Phi(22.5°) | Phi(30°)Phi(37.5°) | Phi(45°)Phi(52.5°) | Phi(60°)Phi(67.5°) | Phi(75°)Phi(82.5°) | Phi(90°)Phi(97.5°) | Phi(105°)Phi(112.5°) | Phi(120°)Phi(127.5°) | Phi(135°)Phi(142.5°) | Phi(150°)Phi(157.5°) | Phi(165°)Phi(172.5°) | Phi(180°)Phi(187.5°) | Phi(195°)Phi(202.5°) | Phi(210°)Phi(217.5°) | Phi(225°)Phi(232.5°) | Phi(240°)Phi(247.5°) | Phi(255°)Phi(262.5°) | Phi(270°)Phi(277.5°) | Phi(285°)Phi(292.5°) | Phi(300°)Phi(307.5°) | Phi(315°)Phi(322.5°) | Phi(330°)Phi(337.5°) | Phi(345°)Phi(352.5°) | | | | | | | | | | | | |
| Theta(0°) | -11.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



Radiated Composite Gain Data Radio 1 (2TX)

Appendix A.3

| Theta | 8.47:8.06 | 9.69:10.26 | 8.38:7.44 | 7.64:7.69 | 7.8:8.34 | 9.01:10.86 | 13.89:17.7 | 18.92:18.72 | 18.15:17.94 | 16.13:16.47 | 11.82:8.78 | 8.52:10.78 | 13.45:17.01 | 18.77:18.81 | 17.09:15.03 | 13.26:11.23 | 10.34:10.76 | 12.52:15.31 | 19.32:18.61 | 17.99:19.29 | 18.58:18.79 | 17.51:19.09 | 14.51:13.13 | 11.75:10.54 | | | | | | | | | | | | | | | | | | | | | | | |
|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|
| Theta(15°) | 8.36:9.04 | 7.74:6.83 | 5.86:6.44 | 7.07:8.19 | 11.23:11.61 | 7.84:7.71 | 9.69:18.06 | 16.47:14.67 | 18.01:16.05 | 12.86:12.76 | 11.12:8.96 | 7.65:9.77 | 15.62:19.39 | 19.25:15.8 | 14.54:10.1 | 13.27:13.27 | 14.71:10.79 | 17.33:17.17 | 18.4:18.81 | 14.4:13.07 | 14.04:15.28 | 17.06:16.25 | 14.34:11.53 | 8.75:7.49 | | | | | | | | | | | | | | | | | | | | | | | |
| Theta(22.5°) | 12.24:12.94 | 9.27:8.14 | 9.07:12.51 | 12.09:9.55 | 13.59:18.18 | 16.57:12.92 | 12.19:15.5 | 14.72:14.65 | 14.94:15.05 | 10.59:13.31 | 13.78:9.27 | 7.62:11.84 | 17.82:16.56 | 18.63:18.21 | 17.76:19.04 | 14.82:18.94 | 14.98:16.73 | 19.09:17.52 | 18.13:10.42 | 11.39:10.42 | 10.49:9.76 | 11.81:17.5 | 18.8:15.58 | 13.09:10.76 | | | | | | | | | | | | | | | | | | | | | | | |
| Theta(37.5°) | 14.28:13.79 | 9.14:9.04 | 12.13:16.73 | 14.54:11.9 | 16.23:15.37 | 15.11:12.85 | 10.67:18.9 | 19.36:12.44 | 11.25:17.86 | 19.38:9.54 | 8.66:8.59 | 5.74:7.8 | 17.15:18.11 | 14.92:18.51 | 15.56:13.54 | 13.07:17.79 | 14.19:11.89 | 16.49:18.33 | 17.93:16.13 | 16.35:18.82 | 13.34:9.71 | 10.24:12.88 | 16.62:19.22 | 16.12:16.58 | | | | | | | | | | | | | | | | | | | | | | | |
| Theta(45°) | 18.86:14.32 | 11.24:11.3 | 18.39:18.84 | 19.42:14.45 | 10.79:14.52 | 12.65:12.08 | 8.64:9.77 | 9.61:18.79 | 16.79:15.16 | 14.86:12.41 | 10.81:9.51 | 10.79:12.86 | 14.62:18.07 | 12.57:16.49 | 15.3:18.27 | 12.21:11.82 | 13.51:15.9 | 17.19:17.99 | 17.49:15.65 | 13.51:12.67 | 8.9:10.68 | 9.74:8.68 | 13.49:18.71 | 18.65:18.97 | | | | | | | | | | | | | | | | | | | | | | | |
| Theta(52.5°) | 17.86:14.21 | 12.11:15.88 | 18.57:12.94 | 11.33:18.98 | 14.34:15.56 | 17.28:14.06 | 12.59:1.96 | 10.18:11.04 | 16.42:11.84 | 14.79:17.86 | 14.01:9.21 | 9.41:17.02 | 11.55:18.19 | 17.73:18.6 | 12.82:11.8 | 17.62:13.19 | 11.91:18.76 | 18.74:19.77 | 17.49:15.65 | 9.84:8.49 | 9.04:11.39 | 9.96:11.37 | 12.51:17.41 | 19.12:18.52 | | | | | | | | | | | | | | | | | | | | | | | |
| Theta(60°) | 16.67:18.92 | 15.87:18.5 | 17.91:18.14 | 9.09:10.8 | 18.61:15.99 | 14.11:13.28 | 13.93:13.17 | 11.74:8.28 | 11.04:16.06 | 17.16:9.9 | 7.92:14.72 | 8.59:8.72 | 12.6:14.43 | 11.69:17.32 | 17.77:18.87 | 13.62:17.83 | 13.25:15.52 | 18.31:18.6 | 18.39:13.11 | 9.17:8.35 | 8.51:7.19 | 7.86:11.19 | 18.32:17.45 | 18.42:16 | | | | | | | | | | | | | | | | | | | | | | | |
| Theta(67.5°) | 17.52:17.84 | 18.25:18.02 | 18.77:12.96 | 11.03:11.6 | 19.07:9.99 | 14.9:15.17 | 14.21:19.2 | 17.74:18.3 | 5.55:14.58 | 10.75:10.52 | 9.97:11.47 | 9.12:7.74 | 8.58:13.25 | 17.97:18.85 | 9.67:13.68 | 18.45:16.84 | 19.22:17.17 | 17.71:19.69 | 15.89:17.55 | 8.58:7.93 | 9.7:12.66 | 16.57:14.52 | 18.29:12.12 | | | | | | | | | | | | | | | | | | | | | | | | |
| Theta(75°) | 16.53:17.77 | 18.75:17.42 | 18.27:11.42 | 12.68:13.92 | 13.65:11.76 | 18.04:14.44 | 19.01:14.95 | 18.06:18.14 | 6.89:15.98 | 16.63:17.14 | 18.35:11.23 | 9.78:6.05 | 7.02:4.51 | 8.11:9.54 | 12.98:18.38 | 15.66:13.06 | 17.78:17.98 | 18.07:15.15 | 18.5:18.66 | 17.58:9.79 | 10.38:7.64 | 9.54:11.87 | 19.47:12.7 | 18.31:14.08 | | | | | | | | | | | | | | | | | | | | | | | |
| Theta(82.5°) | 15.29:17.54 | 18.33:17.8 | 19.18:14.49 | 12.04:12.07 | 11.62:12.01 | 17.22:17.48 | 17.95:11.11 | 18.27:18.78 | 7.12:13.85 | 15.4:14.6 | 14.1:14.82 | 10.09:4.03 | 5.39:4.14 | 7.19:9.04 | 11.45:13.69 | 18.98:13.61 | 17.61:16.56 | 14.43:16.14 | 18.4:17.83 | 18.11:10.65 | 11.63:8.27 | 10.24:12.4 | 18.43:11.85 | 14.95:16.22 | | | | | | | | | | | | | | | | | | | | | | | |
| Theta(90°) | 15.49:17.58 | 18.18:17.31 | 18.51:15.69 | 10.25:10.17 | 9.46:13.63 | 16.21:18.91 | 17.63:11.69 | 17.63:11.69 | 14.14:17.85 | 16.18:19.06 | 18.11:12.24 | 12.73:10.8 | 16.39:12.68 | 10.58:14.22 | 7.31:2.84 | 7.43:4.72 | 6.22:9 | 12.34:12.64 | 16.83:18.85 | 14.09:18.92 | 14.77:17.44 | 18.49:19.43 | 14.44:8.47 | 9.96:12.53 | 19.14:17.59 | | | | | | | | | | | | | | | | | | | | | | |
| Theta(97.5°) | 17.51:17.57 | 18.96:14.87 | 18.37:14.81 | 9.46:12.68 | 11.56:11.23 | 11.91:18.38 | 18.64:11.95 | 13.65:17.08 | 18.06:9.34 | 18.99:9.54 | 10.29:15.55 | 6.97:4.41 | 7.88:5.84 | 6.17:10.19 | 12.42:16.91 | 18.36:17.43 | 18.07:19.03 | 17.67:18.18 | 17.22:18.13 | 19.41:11.25 | 13.73:9.5 | 11.16:15.51 | 17.05:14.76 | 15.69:16.97 | | | | | | | | | | | | | | | | | | | | | | | |
| Theta(105°) | 19:18.03 | 17.91:18.07 | 17.92:18.38 | 10.38:12.1 | 12.5:10.89 | 14.81:17.31 | 17.74:14.45 | 13.25:18.01 | 15.66:10.44 | 18.98:13.1 | 12.08:13.28 | 6.84:7.48 | 9.84:7.3 | 8.65:10.21 | 13.45:17.16 | 18.34:16.75 | 18.7:18.37 | 17.32:17.64 | 17.71:19.34 | 18.88:14.08 | 16.18:10.69 | 13.19:18.2 | 18.93:16.5 | 13.92:13.75 | | | | | | | | | | | | | | | | | | | | | | | |
| Theta(112.5°) | 18.51:18.09 | 17.63:19.07 | 18.77:18.54 | 13.46:15.44 | 13.59:12.51 | 14.19:18.88 | 16.18:19.06 | 18.11:12.24 | 15.21:14.26 | 14.95:18.06 | 18.11:12.24 | 15.21:14.26 | 14.95:18.06 | 18.11:12.24 | 15.21:14.26 | 14.95:18.06 | 18.11:12.24 | 15.21:14.26 | 14.95:18.06 | 18.11:12.24 | 15.21:14.26 | 14.95:18.06 | 18.11:12.24 | 15.21:14.26 | 14.95:18.06 | | | | | | | | | | | | | | | | | | | | | | |
| Theta(120°) | 13.43:14.01 | 18.05:17.81 | 18.77:18.94 | 13.56:18.81 | 16.89:16.36 | 11.37:19.97 | 11.51:19.22 | 18.53:14.68 | 11.68:19.56 | 14.22:14.02 | 10.27:14.92 | 14.75:15.98 | 18.49:18.47 | 15:13.31 | 17.94:19.58 | 15.51:15.76 | 15.53:15.31 | 18.07:19.91 | 17.67:18.18 | 17.22:18.13 | 19.41:11.25 | 13.73:9.5 | 11.16:15.51 | 17.05:14.76 | | | | | | | | | | | | | | | | | | | | | | | |
| Theta(127.5°) | 14.22:10.87 | 14.37:18.47 | 18.52:18.02 | 13.96:15.4 | 18.93:18.3 | 13.69:15.27 | 11.8:13.95 | 13.37:18.9 | 10.75:18.55 | 14.63:15.45 | 13.69:17.55 | 17.14:18.52 | 18.91:18.26 | 18.46:18.22 | 18.55:16.57 | 18.85:17.65 | 18.01:17.92 | 17.43:17.52 | 19.38:16.54 | 13.96:17.66 | 17.73:16.72 | 18.26:15.57 | 17.96:13.06 | 17.85:14.53 | | | | | | | | | | | | | | | | | | | | | | | |
| Theta(135°) | 9.55:13.34 | 17.58:18.23 | 16.97:17.39 | 16.27:17.03 | 16.48:14.59 | 14.37:18.36 | 17.88:17.7 | 11.48:19.93 | 12.61:9.09 | 13.79:13.49 | 14.77:13.62 | 13.3:18.73 | 18.07:17.89 | 18.27:18.9 | 18.18:17.34 | 16.84:18.34 | 15.37:18.91 | 19.21:18.14 | 19.25:18.89 | 19.43:17.53 | 14.84:12.73 | 14.68:19.09 | 18.16:14.73 | 13.67:15.6 | | | | | | | | | | | | | | | | | | | | | | | |
| Theta(142.5°) | 8.5:13.58 | 16.54:14.12 | 17.55:16.34 | 13.32:12.84 | 14.84:10.28 | 14.11:16.16 | 16.82:17.11 | 11.37:13.49 | 17.81:11.09 | 18.31:13.94 | 14.77:13.65 | 14.61:14.92 | 18.01:14.23 | 18.99:17.66 | 18.77:18.29 | 17.91:14.01 | 14.43:18.95 | 19.17:19.26 | 16.32:17.93 | 17.9:16.51 | 17.65:19.22 | 13.84:15.64 | 17.53:17.97 | 18.91:12.97 | | | | | | | | | | | | | | | | | | | | | | | |
| Theta(150°) | 10.56:11.95 | 14.98:16.04 | 17.54:18.19 | 19.26:18.3 | 18.13:17.14 | 18.81:16.92 | 17.79:19.15 | 18.48:15.49 | 19.08:11.75 | 14.45:18.81 | 18.35:18.5 | 17.67:16.19 | 18.42:19.73 | 18.11:18.09 | 17.67:19.07 | 15.79:11.43 | 13.16:18.36 | 16.71:18.21 | 17.92:17.29 | 18.09:13.66 | 15.48:19.24 | 18.68:18.28 | 18.29:17.64 | 13.1:12.4 | | | | | | | | | | | | | | | | | | | | | | | |
| Theta(157.5°) | 16.11:17.25 | 14.76:17.81 | 18.11:18.96 | 15.8:18.89 | 18.27:16.45 | 13.65:15.54 | 17.83:17.32 | 10.08:9.41 | 15.89:18.23 | 19.32:18.2 | 18.95:19.23 | 18.16:18.18 | 18.63:17.55 | 15.47:18.63 | 17.62:18.66 | 18.33:18.29 | 18.82:18.23 | 18.97:18.21 | 17.71:18.24 | 18.38:16.51 | 16.36:17.99 | 19.15:18.18 | 17.57:17.65 | 14.91:12.33 | | | | | | | | | | | | | | | | | | | | | | | |
| Theta(165°) | 14.22:11.93 | 14.21:18.52 | 17.56:17.91 | 14.56:12.09 | 9.78:8.46 | 8.92:12.2 | 15.84:13.37 | 10.66:11.63 | 15.3:18.66 | 18.09:17.44 | 17.52:18.06 | 18.18:19.42 | 17.44:17.97 | 17.38:16.53 | 18.53:19.04 | 18.42:18.55 | 18.82:18.71 | 15.53:12.47 | 12.21:14.22 | 16.47:16.87 | 15.56:15.42 | 14.07:16.5 | 18.41:18.22 | 17.56:17.89 | | | | | | | | | | | | | | | | | | | | | | | |
| Theta(172.5°) | 16.52:16.07 | 19.32:18.3 | 17.94:17.23 | 18.53:19.25 | 18.79:17.92 | 17.58:16.51 | 15.71:15.77 | 15.72:16.79 | 19.32:18.09 | 18.83:18.8 | 18.45:18.59 | 18.8:18.07 | 18.02:19.15 | 18.15:17.99 | 18.64:18.49 | 18.82:19.01 | 18.88:16.55 | 14.89:12.83 | 14:15.62 | 15.57:14.92 | 15.33:16.27 | 17.12:18.66 | 18.51:18.95 | 17.19:14.94 | | | | | | | | | | | | | | | | | | | | | | | |
| Theta(180°) | 15.69:15.18 | 14.26:12.86 | 14.16:18.48 | 18.99:18.16 | 19.02:17.62 | 17.09:17.71 | 18.32:18.01 | 18.18:18.56 | 17.96:18.01 | 18.53:18.36 | 18.86:18.89 | 18.07:17.42 | 18.29:18.13 | 16.12:16.48 | 18.34:18.25 | 17.74:17.98 | 17.98:18.54 | 18.28:18.67 | 18.31:17.81 | 18.79:17.79 | 17.51:19.43 | 18.43:18.42 | 18.79:18.39 | 16.37:16.68 | | | | | | | | | | | | | | | | | | | | | | | |
| Freq(Hz) | 5.65GHz | ThetaAnt. 1 | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | ↓ | | | | | | | | | | | | | | | | | | | | | | | |
| Gain | Phi(7.5°) | Phi(15°) | Phi(22.5°) | Phi(30°) | Phi(37.5°) | Phi(45°) | Phi(52.5°) | Phi(60°) | Phi(67.5°) | Phi(75°) | Phi(82.5°) | Phi(90°) | Phi(97.5°) | Phi(105°) | Phi(112.5°) | Phi(120°) | Phi(127.5°) | Phi(135°) | Phi(142.5°) | Phi(150°) | Phi(157.5°) | Phi(165°) | Phi(172.5°) | Phi(180°) | Phi(187.5°) | Phi(195°) | Phi(202.5°) | Phi(210°) | Phi(217.5°) | Phi(225°) | Phi(232.5°) | Phi(240°) | Phi(247.5°) | Phi(255°) | Phi(262.5°) | Phi(270°) | Phi(277.5°) | Phi(285°) | Phi(292.5°) | Phi(300°) | Phi(307.5°) | Phi(315°) | Phi(322.5°) | Phi(330°) | Phi(337.5°) | Phi(345°) | Phi(352.5°) |
| Theta(0°) | 18.51:17.99 | 18.19:17.6 | 18.11:18.04 | 17.96:18.07 | 18.61:17.24 | 16.82:15.83 | 15.22:14.77 | 15.15:15.28 | 16.11:16.39 | 14.76:15.33 | 18.48:18.31 | 18.16:14.95 | 17.67:17.58 | 18.71:19.01 | 19.64:17.55 | 17.02:14.96 | 13.5:11.41 | 10.31:12.21 | 9.68:8.78 | 8.8:9.3 | 9.95:14.03 | 13.77:10.31 | 13.76:13.58 | 15.27:15.75 | | | | | | | | | | | | | | | | | | | | | | | |
| Theta(7.5°) | 16.7:17.81 | 17.71:18.44 | 18.32:18.99 | 16.41:13.29 | 7.33:9.84 | 7.65:6.49 | 6.48:6.56 | 6.37:6.37 | 6.58:6.94 | 7.18:7.14 | 7.33:6.47 | 9.99:10.89 | 12.97:15.15 | 15.11:15.04 | 16.96:17.57 | 19.91:17.26 | 19.31:17.9 | 18.77:17.72 | 17.14:19.04 | 16.99:15.79 | 16.25:15.63 | 14.07:12.84 | 13.18:15.15 | 15.64:15.16 | | | | | | | | | | | | | | | | | | | | | | | |
| Theta(15°) | 9.62:10.51 | 10.84:11.18 | 12.84:14.73 | 11.54:8.22 | 5.55:4.12 | 3.49:3.58 | 4.07:4.76 | 6.03:6.89 | 6.67:6.83 | 7.34:7.84 | 8.89:10.66 | 14.63:17.78 | 19.37:18.15 | 18.63:18.72 | 15.27:14.69 | 14.01:13.7 | 14.83:18.71 | 17.94:16.73 | 15.96:15.62 | 15.51:15.86 | 15.85:17.04 | 16.46:14.25 | 12.85:12.04 | 11.9:9.68 | | | | | | | | | | | | | | | | | | | | | | | |
| Theta(22.5°) | 6.13:7.67 | 8.41:7.98 | 7.2:7.51 | 5.01:2.61 | 2.27:3.79 | 5.37:6.48 | 3.5:3.23 | 3.12:3.24 | 2.21:3.14 | 5.5:7.51 | 7.66:7.19 | 15.06:18.57 | 19.22:16.66 | 14.73:13.02 | 13.35:15.51 | 17.56:17.24 | 11.55:10.11 | 10.17:13.33 | 16.79:17.37 | 17.25:12.39 | 8.64:7.59 | 7.85:8.09 | 7.29:6.51 | | | | | | | | | | | | | | | | | | | | | | | | |
| Theta(30°) | 2.07:2.39 | 2.9:2.89 | 1.14:1.23 | 2.93:1.22 | 0.39:2.09 | 3.14:2.79 | 2.46:3.18 | 4.28:3.58 | 2.67:3.04 | 3.68:5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



Radiated Composite Gain Data Radio 1 (2TX)

Appendix A.3

| Theta | Phi | Gain | Phi(7.5) | Phi(15) | Phi(22.5) | Phi(30) | Phi(37.5) | Phi(45) | Phi(52.5) | Phi(60) | Phi(67.5) | Phi(75) | Phi(82.5) | Phi(90) | Phi(97.5) | Phi(105) | Phi(112.5) | Phi(120) | Phi(127.5) | Phi(135) | Phi(142.5) | Phi(150) | Phi(157.5) | Phi(165) | Phi(172.5) | Phi(180) | Phi(187.5) | Phi(195) | Phi(202.5) | Phi(210) | Phi(217.5) | Phi(225) | Phi(232.5) | Phi(240) | Phi(247.5) | Phi(255) | Phi(262.5) | Phi(270) | Phi(277.5) | Phi(285) | Phi(292.5) | Phi(300) | Phi(307.5) | Phi(315) | Phi(322.5) | Phi(330) | Phi(337.5) | Phi(345) | Phi(352.5) | | | | |
|-----------|------------|-------------|-------------|-------------|-------------|----------|------------|------------|-------------|-------------|-------------|-----------|-----------|-------------|-------------|-------------|-------------|-------------|------------|-------------|-------------|-------------|------------|------------|------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|----------|------------|--|--|--|--|
| Theta(60) | 8.21/12.07 | 19.23/14.55 | 13.16/13.77 | 14.05/12.17 | 11.41/12.12 | 13.71/11 | 15.73/6.75 | 17.39/9.41 | 18.25/16.56 | 16.73/17.58 | 10.74/12.47 | 9.31/8.35 | 7.42/9.58 | 14.51/16.01 | 19.02/16.94 | 16.19/17.53 | 16.65/12.35 | 13.11/13.22 | 16.24/12.9 | 18.94/13.06 | 14.21/19.18 | 12.46/14.94 | 19.6/12.99 | 14.77/8.69 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



Radiated Composite Gain Data Radio 1 (2TX)

Appendix A.3

| Freq(Hz) | Theta(Ant. 4) | Phi(0°)Phi(7.5°) | Phi(15°)Phi(22.5°) | Phi(30°)Phi(37.5°) | Phi(45°)Phi(52.5°) | Phi(60°)Phi(67.5°) | Phi(75°)Phi(82.5°) | Phi(90°)Phi(97.5°) | Phi(105°)Phi(112.5°) | Phi(120°)Phi(127.5°) | Phi(135°)Phi(142.5°) | Phi(150°)Phi(157.5°) | Phi(165°)Phi(172.5°) | Phi(180°)Phi(187.5°) | Phi(195°)Phi(202.5°) | Phi(210°)Phi(217.5°) | Phi(225°)Phi(232.5°) | Phi(240°)Phi(247.5°) | Phi(255°)Phi(262.5°) | Phi(270°)Phi(277.5°) | Phi(285°)Phi(292.5°) | Phi(300°)Phi(307.5°) | Phi(315°)Phi(322.5°) | Phi(330°)Phi(337.5°) | Phi(345°)Phi(352.5°) |
|---------------|------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Theta(0°) | 9.74/10.74 | -6.36/14.91 | -15.52/19.28 | -14.32/10.58 | -12.94/11.59 | -16.44/17.99 | -18.16/14.15 | -15.13/14.79 | -14.5/13.61 | -13.91/18.23 | -18.86/18.33 | -19.41/19.13 | -17.75/16.54 | -16.36/17.91 | -18.22/15.81 | -14.71/13.47 | -18.91/17.81 | -18.47/18.07 | -15.57/18.43 | -19.17/19.29 | -18.54/16.63 | -18.73/18.34 | -11.61/10.11 | -8.45/8.98 | |
| Theta(7.5°) | -11.2/18.06 | -10.65/19.24 | -13.79/17.82 | -15.51/15.2 | -10.21/17.19 | -18.49/18.39 | -17.33/19.57 | -15.19/15.34 | -18.27/18.18 | -16.16/17.11 | -18.17/19.11 | -17.04/18.56 | -18.92/17.98 | -17.34/19.29 | -18.98/14.97 | -17.79/14.15 | -13.79/15.35 | -17.2/18.37 | -18.46/17.88 | -18.7/17.71 | -18.16/19.27 | -19.01/18.6 | -12.84/14.61 | -12.92/14.31 | |
| Theta(15°) | -17.55/17.54 | -15.38/18.32 | -12.38/15.81 | -18.48/17.86 | -10.3/18.45 | -17.24/17.58 | -15.94/18.38 | -13.57/15 | -17.51/19.22 | -14.93/18.7 | -17.75/18.53 | -18.5/18.25 | -18.66/17.66 | -18.87/18.79 | -17.3/15.64 | -18.95/14.74 | -15.85/10.73 | -17.4/18.39 | -19.22/17.85 | -18.77/19.09 | -17.05/18.51 | -15.71/17.73 | -18.7/18.13 | -19.03/18.27 | |
| Theta(22.5°) | -18.5/18.4 | -14.15/18.64 | -11.59/16.95 | -18.47/17.75 | -10.51/14.33 | -18.5/15.96 | -18.67/19.32 | -18.76/18.03 | -19.36/17.15 | -13.8/18.76 | -18.64/17.69 | -18.88/16.14 | -16.1/16.64 | -18.02/18.32 | -18.41/17.05 | -9.9/16.35 | -14.33/13.48 | -17.54/17.81 | -18.22/17.65 | -18.98/18.45 | -17.62/19.11 | -18.12/17.28 | -18.81/18.05 | -17.63/17.99 | |
| Theta(30°) | -13.59/18.98 | -14.52/19.61 | -17.96/13.68 | -18.72/18.34 | -16.3/16.37 | -11.44/18.79 | -18.99/15.09 | -15.21/18.3 | -16.14/16.23 | -18.34/17.85 | -19.43/14.39 | -19.82/18.01 | -15.78/13.67 | -19.11/19.23 | -18.15/13.18 | -11.32/14.06 | -16.77/17.63 | -14.36/14.18 | -17.15/18.58 | -18.49/18.77 | -16.04/16.02 | -18.61/18.39 | -15.67/18 | -18.8/18.31 | |
| Theta(37.5°) | -19.43/19.47 | -19.2/19.02 | -12.32/11.32 | -18.98/17.64 | -19.35/15.63 | -12.98/18.66 | -10.14/15.14 | -16.37/13.85 | -19.06/12.86 | -17.19/19.11 | -13.62/11.88 | -19.17/16.71 | -11.85/15.26 | -18.62/19.11 | -13.79/12.85 | -13.73/15.72 | -19.23/18.62 | -16.55/18.72 | -15.04/14.69 | -18.51/18.82 | -17.91/12.31 | -18.09/17.75 | -16.36/19.02 | -17.92/16.28 | |
| Theta(45°) | -15.2/17.52 | -11.18/17.86 | -16.63/15.44 | -17.7/18.61 | -17.94/18.95 | -18.44/17.72 | -15.61/19.18 | -17.7/17.13 | -18.2/17.9 | -13.52/18.57 | -17.29/18.94 | -18.87/14.87 | -15.48/19.23 | -18.74/19.32 | -18.46/18.95 | -17.15/17.48 | -18.22/16.79 | -18.14/19.2 | -16.97/17.54 | -19.08/14.98 | -16.91/18.17 | -17.67/18.32 | -14.13/14.75 | -18.53/12.11 | |
| Theta(52.5°) | -18.64/18.29 | -18.38/18.69 | -18.13/14.03 | -11.44/15.28 | -18.46/14.54 | -15.71/18.74 | -18.63/18.65 | -18.38/18.47 | -17.93/19.03 | -18.61/18.01 | -16.15/17 | -18.84/17.79 | -15.02/18.33 | -18.78/17.52 | -17.16/18.65 | -18.35/17.75 | -16.01/17.09 | -17.87/15.73 | -12.92/14.13 | -18.88/18.15 | -14.43/15.63 | -19.12/18.3 | -18.24/18.24 | -18/17.76 | |
| Theta(60°) | -19.07/18.44 | -19.56/18.38 | -18.52/18.53 | -18.55/19.16 | -14.36/12.88 | -14.63/17.6 | -17.68/18.63 | -15.71/16.1 | -17.14/18.75 | -19.1/19.68 | -17.92/17.34 | -18.39/17.53 | -17.25/18.34 | -18.94/17.93 | -17.4/19.32 | -18.87/13.77 | -12.61/14.6 | -15.53/14.15 | -13.52/14.18 | -17.56/18.85 | -18.17/18.34 | -17.56/18.85 | -18.11/18.51 | -19.75/18.02 | |
| Theta(67.5°) | -17.15/19.19 | -18.08/18.8 | -17.63/15.99 | -17.47/18.07 | -16.95/18.28 | -18.64/18.68 | -17.49/16.64 | -16.16/16.63 | -18.33/18.57 | -18.88/18.55 | -18.52/17.74 | -15.65/16.86 | -19.29/18.38 | -18.68/18.88 | -17.7/18.22 | -16.51/14.26 | -14.88/17.35 | -18.24/17.62 | -16.72/17.28 | -17.83/18.44 | -17.65/18.52 | -18.66/17.95 | -18.52/18.27 | -15.75/15.91 | |
| Theta(75°) | -18.6/17.45 | -18.45/17.93 | -17.85/18.68 | -18.76/18.2 | -18.91/17.75 | -18.18/16.89 | -17.42/17.74 | -18.32/19.75 | -18.66/18.33 | -17.94/18.48 | -19.02/19.19 | -17.81/18.5 | -19.24/18.42 | -17.92/18.77 | -19.01/16.73 | -15.54/17.27 | -19.1/18.05 | -16.95/18.17 | -18.3/18.02 | -18.52/19.47 | -18.45/17.34 | -18.19/18.72 | -18.41/19 | -18.31/18.32 | |
| Gain | Phi(0°)Phi(7.5°) | Phi(15°)Phi(22.5°) | Phi(30°)Phi(37.5°) | Phi(45°)Phi(52.5°) | Phi(60°)Phi(67.5°) | Phi(75°)Phi(82.5°) | Phi(90°)Phi(97.5°) | Phi(105°)Phi(112.5°) | Phi(120°)Phi(127.5°) | Phi(135°)Phi(142.5°) | Phi(150°)Phi(157.5°) | Phi(165°)Phi(172.5°) | Phi(180°)Phi(187.5°) | Phi(195°)Phi(202.5°) | Phi(210°)Phi(217.5°) | Phi(225°)Phi(232.5°) | Phi(240°)Phi(247.5°) | Phi(255°)Phi(262.5°) | Phi(270°)Phi(277.5°) | Phi(285°)Phi(292.5°) | Phi(300°)Phi(307.5°) | Phi(315°)Phi(322.5°) | Phi(330°)Phi(337.5°) | Phi(345°)Phi(352.5°) | |
| Theta(0°) | 10.33/10.07 | -10.59/12.24 | -13.62/13.36 | -13.54/16.41 | -17.69/18.74 | -18.9/19.34 | -18.63/17.08 | -13/12.59 | -12.7/11.08 | -10.7/10.26 | -10.03/9.51 | -8.95/8.79 | -9.97/9.3 | -7.97/8.62 | -9.03/9.25 | -9.9/11.07 | -12.11/13.71 | -15.29/16.01 | -17.78/17.61 | -16.67/15.23 | -14.94/14.99 | -13.24/11.15 | -10.93/11.27 | -11.53/11.81 | |
| Theta(7.5°) | -10.58/9.64 | -9.03/8.78 | -8.66/8.59 | -9.72/10.97 | -11.64/12 | -12.84/15.61 | -15.02/15.21 | -19.42/15.52 | -14.92/13.41 | -12.75/12.25 | -11.91/12.77 | -13.22/15.07 | -13.68/13.25 | -15.91/18.61 | -17.87/17.82 | -17.18/16.97 | -15.81/13.55 | -11.89/11.1 | -10.45/10.4 | -10.4/10.66 | -10.4/10.66 | -10.17/11.28 | -11.06/10.5 | | |
| Theta(15°) | -13.69/14.36 | -13.78/12.69 | -12.41/13.95 | -14.37/13.8 | -12.9/13.43 | -14.84/15.13 | -14.46/15.41 | -16.54/14.29 | -13.91/16.41 | -18.02/17.39 | -16.56/18.06 | -18.74/16.6 | -13.19/13.07 | -13.54/13.03 | -13.31/14.05 | -14.63/14.27 | -14.47/15.96 | -16.63/17.03 | -16.79/16.66 | -18.59/18.88 | -15.36/13.07 | -10.22/8.72 | -9.03/10.28 | -11.58/12.85 | |
| Theta(22.5°) | -10.46/9.22 | -8.91/8.13 | -8.17/9.69 | -11.99/8.99 | -7.97/7.16 | -8.51/8.69 | -7.65/8.12 | -9.24/10.13 | -14.72/19.2 | -18.32/16.77 | -14.3/15.7 | -18.53/17.2 | -18.7/19.43 | -18.45/18.23 | -16.7/17.9 | -18.76/15.5 | -10.55/8.5 | -8.19/7.61 | -5.91/4.65 | -5.27/13.3 | -12.7/18.3 | -17.02/14.27 | -14.42/15.71 | -16.59/13.15 | |
| Theta(30°) | -8.65/11.47 | -11.08/7.5 | -5.57/4.92 | -3.65/2.78 | -3.31/5.09 | -7.96/9.91 | -7.54/5.92 | -5.86/8.57 | -13.79/7.1 | -6.83/11.86 | -12.21/12.41 | -12.31/11.55 | -11.49/12.65 | -9.6/8.32 | -7.45/6.47 | -5.1/3.69 | -3.51/4.07 | -4.71/4.5 | -3.31/3.07 | -4.59/8.84 | -14.37/12.05 | -10.82/11.5 | -10.76/7.93 | | |
| Theta(37.5°) | -5.24/4.07 | -3.68/4.91 | -7.24/6.98 | -4.99/4.87 | -5.2/3.11 | -2.73/5.42 | -6.16/8.24 | -11.16/7.96 | -7.26/4.86 | -7.38/4.73 | -2.8/5.05 | -5.05/5.71 | -7.76/6.81 | -4.93/6.94 | -9.12/6.16 | -3.49/3.37 | -4.66/5.53 | -3.98/4.03 | -5.5/4.51 | -4.35/4.12 | -3.59/5.53 | -6.75/3.77 | -2.84/4.9 | -5.56/4.65 | |
| Theta(45°) | -2.98/1.21 | -2.07/1.48 | -0.77/0.91 | -2.26/2.45 | -2.54/3.99 | -4.88/6.11 | -4.78/5.27 | -6.8/4.96 | -3.78/3.96 | -6.37/2.07 | -1.72/4.64 | -5.6/5.57 | -5.63/5.42 | -4.14/4.81 | -5.03/4.42 | -4.17/3.46 | -3.65/4.15 | -2.06/2.48 | -7.35/4.1 | -1.87/3.91 | -2.74/2.37 | -2.08/1.76 | -1.17/3.56 | -4.39/5.18 | |
| Theta(52.5°) | -0.13/0.01 | -3.23/4.37 | -2.31/0.15 | -0.33/1.26 | -2.36/2.08 | -3.33/6.29 | -2.89/5.93 | -3.71/3.12 | -0.77/0.79 | -5.21/7.12 | -3.46/0.99 | -2.47/1.87 | -2.56/2.49 | -3.57/2.85 | -0.59/0.62 | -1.7/3.08 | -0.92/2.78 | -3.84/2.08 | -4.87/5.37 | -3.23/4.26 | -1.78/1.89 | -1.59/3.34 | -1.22/4.02 | -0.02/1.25 | |
| Theta(60°) | 1.32/0.38 | 0.76/3.25 | 2.30/3.7 | 0.93/0.53 | 2.66/6.07 | 3.03/7.05 | 6.93/9.9 | 5.66/6.99 | 1.08/1.02 | -2/0.47 | 4.29/0.54 | 3.1/4.23 | 4.3/4.01 | 2.3/1.28 | 0.18/0.43 | 0.72/3.52 | -1.48/0.35 | 2.27/0.4 | 2.18/2.91 | -3.3/3.58 | 1.82/2.95 | 2.08/3.6 | 0.91/0.06 | -0.89/0.97 | |
| Theta(67.5°) | -6.93/1.04 | -0.95/1.14 | -0.75/1.58 | 0.03/1.22 | 3.36/8.96 | -6.24/10.3 | -16.77/8.73 | -6.76/7.46 | -2.65/3.94 | -1.24/0.1 | -2.68/2.09 | -2.01/3.76 | -4.01/2.93 | -3.05/2.45 | -0.01/2.68 | -3.46/0.08 | -0.76/1.08 | -2.31/2.14 | -3.82/2.26 | -1.59/3.57 | -2.22/1.82 | -2.22/1.82 | -1.62/1.61 | | |
| Theta(75°) | -8.46/3.68 | -3.66/1.6 | 0.39/1.43 | -0.22/1.87 | -3.55/7.54 | -12.76/9.65 | -10.41/3.29 | -3.79/3.72 | -3.51/6.93 | -2.29/0.77 | -1.5/4.75 | -1.64/2.87 | -3.13/3.97 | -4.42/4.47 | -1.47/1.16 | -0.82/1.54 | -3.66/2.04 | -1.15/1.8 | -2.26/1.9 | -4.16/1.56 | -1.86/2.89 | -1.15/3.07 | -2.98/3.11 | -0.21/1.02 | |
| Theta(82.5°) | -6.16/5.73 | -6.62/3.01 | -0.34/1.31 | -0.81/3.1 | -4.77/7.07 | -10.25/7.7 | -7.44/2.14 | -3.81/3.03 | -4.1/6.65 | -4.05/1.89 | -1.5/5.25 | -2.02/2.9 | -3.5/5 | -4.65/4.75 | -1.11/2.22 | -2.83/3.18 | 0.72/3.39 | -1.72/1.89 | -2.8/2.62 | -5.02/1.61 | -2.94/2.78 | -0.75/2.51 | -2.68/2.41 | -0.01/1.24 | |
| Theta(90°) | -6.54/8.93 | -11.85/6.49 | -1.56/2.24 | -1.49/4.04 | -8.62/8.48 | -10.6/8.87 | -7.7/7.29 | 5.05/4.49 | 5.05/4.48 | 5.01/3.57 | -1.72/3.63 | -3.79/14.3 | 3.61/7.66 | 5.23/3.38 | -1.57/3.54 | -5.18/3.85 | -7.12/0.09 | -1.81/0.4 | 2.71/4.38 | -7.83/1.92 | -4.61/4.78 | -1.9/3.82 | -4.35/3.21 | -1.14/2.73 | |
| Theta(97.5°) | -8.43/10.51 | -13.55/8.75 | -3.73/3.34 | -2.9/6.18 | -12.96/10.77 | -11.8/6.85 | -9.65/3.76 | -7.15/4.01 | -9.68/9.14 | -6.39/4.04 | -3.59/1.72 | -4.71/5.13 | -4.98/1.74 | -5.88/1.97 | -3.35/5.59 | -4.97/6.48 | -9.23/1.55 | -3.55/3.06 | -4.97/7.34 | -7.97/3.18 | -7.67/8.56 | -4.25/6.94 | -7.04/7.01 | -4.82/3.95 | |
| Theta(105°) | -7.87/12.7 | -14.2/9.97 | -4.34/5.22 | 4.18/7.75 | -15.68/17.08 | -18.7/8.16 | -11.81/5.45 | -12.51/5.22 | -17.31/10.32 | -6.12/6.17 | 4.99/8.89 | -6.43/9.38 | -6.08/8.33 | 6.2/7.21 | -4.47/6.9 | -6.96/8.51 | -10.92/4.5 | -3.82/6.42 | -8.52/9.51 | -12.88/5.87 | -10.79/13.08 | -8.2/11.68 | -16.03/15.06 | -8.97/5.6 | |
| Theta(112.5°) | -9.59/19.09 | -10.42/9.65 | -7.66/7.75 | -5.84/8.47 | -18.29/18.67 | -14.58/13.65 | -15.26/8.73 | -17.95/11.33 | -18.44/9.72 | -7.25/6.48 | 9.26/9.43 | -6.75/11.5 | -8.4/9.73 | -6.52/8.89 | -4.92/5.27 | -5.95/10.92 | -9.15/5.7 | -4.38/7.06 | -9.05/12.71 | -12.68/6.01 | -7.11/14.86 | -12.3/11.95 | -16.85/18.46 | -19.24/10.54 | |
| Theta(120°) | -15.49/17.61 | -11.93/9.79 | -12.4/9.55 | -7.48/13.47 | -18.04/17.26 | -12.56/10.86 | -13.91/10.18 | -14.6/18.55 | -18.35/9.06 | -8.3/6.5 | -10.54/10.41 | -7.84/11.36 | -11.02/14.46 | -10.42/7.5 | -8.01/5.73 | -6.75/14.71 | -9.41/7.89 | -6.44/8.87 | -10.37/16.4 | -16.08/9.38 | -6.87/11.63 | -12.94/11.03 | -9.91/18.25 | -17.42/18.78 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |



| Freq(Hz) | 6.175G | 6.475G | 6.695G | 6.995G |
|--|------------------|------------------|-----------------|----------------|
| Ant. 1 Max Gain (dBi) | 3.66 | 2.95 | 5.16 | 5.06 |
| Ant. 2 Max Gain (dBi) | 3.38 | 4 | 5.81 | 4.76 |
| Ant. 3 Max Gain (dBi) | 3.54 | 2.54 | 3.51 | 3.97 |
| Ant. 4 Max Gain (dBi) | 4.27 | 3.5 | 5.5 | 5.22 |
| Ant. 1 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$ | Theta/75/90 | Theta/75/120 | Theta/60/82.5 | Theta/75/127.5 |
| Ant. 2 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$ | Theta/67.5/0 | Theta/67.5/157.5 | Theta/67.5/97.5 | Theta/75/97.5 |
| Ant. 3 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$ | Theta/82.5/307.5 | Theta/75/135 | Theta/82.5/270 | Theta/82.5/300 |
| Ant. 4 Polarization/ $\Theta(^{\circ})/\Phi(^{\circ})$ | Theta/75/82.5 | Theta/67.5/82.5 | Theta/75/262.5 | Theta/75/262.5 |
| Max Gain (dBi) | 4.27 | 4 | 5.81 | 5.22 |
| DG [1SS] (dBi) | 8.35 | 8.3 | 8.63 | 8.73 |
| DG [2SS] (dBi) | 5.35 | 5.3 | 5.81 | 5.73 |
| DG [4SS] (dBi) | 4.27 | 4 | 5.81 | 5.22 |

